

No.

8300055



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Plant Breeders 1, Inc.**

Whereas, THERE HAS BEEN PRESENTED TO THE

**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BARLEY

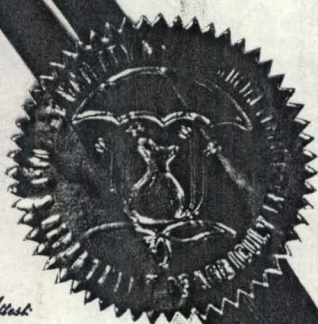
'Seven'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 29th day of November in the year of our Lord one thousand nine hundred and eighty-five.

*John R. Bhl*  
Secretary of Agriculture

Attest:

*Kenneth A. Evans*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service









UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE LIVESTOCK, POULTRY, GRAIN & SEED DIVISION		FORM APPROVED OMB NO. 40-R3822	
<b>APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE</b> INSTRUCTIONS: See Reverse.			
1a. TEMPORARY DESIGNATION OF VARIETY  PB1-78-2R-7		1b. VARIETY NAME  SEVEN <i>EX 830601</i>	
2. KIND NAME  Barley		3. GENUS AND SPECIES NAME  Hordeum Vulgare	
4. FAMILY NAME (BOTANICAL)  Gramineae		5. DATE OF DETERMINATION  April 15, 1981	
6. NAME OF APPLICANT(S)  Plant Breeders 1		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)  851 E. 7th Street Moscow, ID 83843	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.)  Partnership		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:  Wayne L. McProud 851 E. 7th Street Moscow, ID 83843		8. TELEPHONE AREA CODE AND NUMBER  (208) 882-4483	
13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED: <input checked="" type="checkbox"/> 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) <input checked="" type="checkbox"/> 13B. Exhibit B, Novelty Statement. <input checked="" type="checkbox"/> 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.) <input checked="" type="checkbox"/> 13D. Exhibit D, Additional Description of the Variety.			
14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED	
15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)			
15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)			
16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.  The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.  Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.			
Jan 10, 1983 (DATE)		Wayne L. McProud (SIGNATURE OF APPLICANT)	
Jan 10, 1983 (DATE)		Ernest McProud (SIGNATURE OF APPLICANT)	
FORM GR-470 (1-78)		Vera L. McProud 1	







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Barley  
~~PB1-78-2R-7~~ SEVEN

*not a pure butte d't'd 5/24/83*

Exhibit A.

Pedigree: PB1-78-2R-7 is a single plant selection from a two-rowed spring barley recurrent selection population developed by Plant Breeders 1. This PB1 population resulted from intercrossing European and North American two rowed spring barleys (see lists 1 and 2). F<sub>1</sub> seed of numerous crosses was grown as a bulk. This population was screened for desirable agronomic types (height, lodging resistance, etc.) in the F<sub>2</sub> generation. During the F<sub>3</sub> generation plants of superior agronomic type were selected and subsequently yield tested in northern Idaho and eastern Washington. In 1980 PB1-78-2R-7 was grown in head rows where uncharacteristic types were discarded. PB1-78-2R-7 has remained stable and uniform.

List 1

European two-rowed  
Spring Barleys

Aramir  
Berac  
Beckett  
Carina  
Firlbecks III  
Goldfield  
Hassan  
Imber  
Julia  
MarisMink  
Moyjar  
Mazurka  
Nackta  
Proctor  
Sultan  
Tern  
Vada  
Zephyr

List 2

North American two-rowed  
Spring Barleys

Betzes  
Butte  
Compana  
Decap  
Fairfield  
Fergus  
Hector  
Hannechen  
Herta  
Kimberly  
Klages  
Pirolina  
Shabet  
Vanguard







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Exhibit B. Novelty Statement.

'Seven' is most similar to the two rowed spring barley 'Zephyr.' 'Seven' differs from 'Zephyr' in having long rachilla hairs. In northern Idaho and eastern Washington 'Zephyr' has 2-3 centimeters of purple (anthocynin) coloring on the tip of its lemma awns while 'Seven' has 1-2 centimeters of purple on its awns. Additionally, 'Seven' has lighter green heads and leaves than does 'Zephyr'. 'Zephyr's' head is more compact. At soft to hard dough the lemma veins of 'Seven' are more strongly pigmented than the lemma veins of 'Zephyr.' The average coleoptile length of 'Seven' is 4.4 centimeters compared to 'Zephyr's' 4.3 centimeters.







OBJECTIVE DESCRIPTION OF VARIETY  
BARLEY (*HORDEUM VULGARE*)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Plant Breeders 1

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

851 E. 7th Street Moscow, ID 83843

FOR OFFICIAL USE ONLY

PVPO NUMBER 8300055

VARIETY NAME OR TEMPORARY  
DESIGNATION

SEVEN

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
Place a zero in first box (i.e. 089 or 09 ) when number is either 99 or less or 9 or less.

## 1. GROWTH HABIT:

1 1 - SPRING 2 - FACULTATIVE WINTER 3 - WINTER 3 Early Growth: 1 - PROSTRATE 2 - SEMIPROSTRATE  
3 - ERECT

## 2. MATURITY (50% Flowering):

2 1 - EARLY (California Mariout) 2 - MIDSEASON (Betzes) 3 - LATE (Frontier) No. of days Earlier than .....  } 1 - BETZES 2 - CALIFORNIA MARIOUT 3 - CONQUEST 4 - DICKSON  
2 No. of days Later than ..... 5 } 5 - PIROLINE 6 - PRIMUS 7 - UNITAN

## 3. PLANT HEIGHT (From soil level to top of head):

3 1 - SEMIDWARF 2 - SHORT (California Mariout) 3 - MEDIUM TALL (Betzes) 4 - TALL (Conquest)0 4 Cm. Shorter than ..... 5 } 1 - BETZES 2 - CALIFORNIA MARIOUT 3 - CONQUEST 4 - DICKSON  
 Cm. Taller than .....  } 5 - PIROLINE 6 - PRIMUS 7 - UNITAN

## 4. STEM:

1 Exertion (Flag to spike at maturity): 1 = 0 - 3 cm. 2 = 3 - 10 cm. 2 Anthocyanin: 1 - ABSENT 2 - PRESENT  
0 5 NO. OF NODES (Originating from node above ground)1 Collar Shape: 1 - CLOSED 2 - V-SHAPED 3 - OPEN 1 Shape of Neck: 1 - STRAIGHT 2 - SNAKY  
4 - MODIFIED CLOSED OR OPEN 3 - OTHER (Specify)

## 5. LEAF:

1 Basal leaf sheath (seedling): 1 - GLABROUS 2 - PUBESCENT 2 Position of flag leaf (at boot stage): 1 - DROOPING  
3 Waxiness: 1 - ABSENT (Glossy) 2 - SLIGHTLY WAXY 2 - UPRIGHT1 4 MM. WIDTH (First leaf below flag leaf)2 4 CM. LENGTH (First leaf below flag leaf) 2 Anthocyanin in leaf sheath: 1 - ABSENT 2 - PRESENT

## 6. HEAD:

1 Type: 1 - TWO-ROWED 2 - SIX-ROWED 1 Density: 1 - LAX 2 - ERECT (Not dense)  
3 - ERECT (Dense)2 Shape: 1 - TAPERING 2 - STRAP 3 - CLAVATE 3 Waxiness: 1 - ABSENT (Glossy) 2 - SLIGHTLY WAXY  
4 - OTHER (Specify) 3 - WAXY1 Lateral Kernels Overlap: 1 - NONE 2 - AT TIP 2 Rachis (Hair on edge): 1 - LACKING 2 - FEW 3 - COVERED  
3 = 1/4 - 1/2 OF HEAD

## 7. GLUME:

2 Length: 1 - 1/3 OF LEMMA 2 - 1/2 OF LEMMA 3 Hairs: 1 - NONE 2 - SHORT 3 - LONG  
3 = MORE THAN 1/2 OF LEMMA3 Hair covering: 1 - NONE 2 - RESTRICTED TO MIDDLE 3 - CONFINED TO BAND 4 - COMPLETELY COVERED2 Awns: 1 - LESS THAN EQUAL TO LENGTH OF GLUMES 2 - EQUAL TO LENGTH OF GLUMES  
3 - MORE THAN EQUAL TO LENGTH OF GLUMES3 Awn Surface: 1 - SMOOTH 2 - SEMISMOOTH 3 - ROUGH







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## 8. LEMMA:

☒ 5 Awn: 1 = AWNLESS 2 = AWNLETS ON CENTRAL ROWS AWNLESS ON LATERAL ROWS  
3 = SHORT ON CENTRAL ROWS, AWNLETS ON LATERAL ROWS 4 = SHORT (less than equal to length of spike)  
5 = LONG (longer than spike) 6 = HOODED

☒ 3 Awn Surface: 0 = AWNLESS 1 = SMOOTH 2 = SEMISMOOTH 3 = ROUGH

☒ 1 Teeth: 1 = ABSENT 2 = FEW 3 = NUMEROUS ☒ 1 Hair: 1 = ABSENT 2 = PRESENT

☒ 1 Shape of base: 1 = DEPRESSION 2 = SLIGHT CREASE ☒ 2 Rachilla Hairs: 1 = SHORT 2 = LONG  
3 = TRANSVERSE CREASE

## 9. STIGMA:

☒ 2 Hairs: 1 = FEW 2 = MANY

## 10. SEED:

☒ 2 Type: 1 = NAKED 2 = COVERED

☒ 1 Hairs on Ventral Furrow: 1 = ABSENT 2 = PRESENT

☒ 6 Length: 1 = SHORT (8.0 mm.) 2 = SHORT TO MIDLONG (7.5 - 9.0 mm.) 3 = MIDLONG (8.5 - 9.5 mm.)  
4 = MIDLONG TO LONG (9.0 - 10.5 mm.) 5 = LONG (10.0 mm.)

☒ 4 Wrinkling of hull: 1 = NAKED 2 = SLIGHTLY WRINKLED 3 = SEMIWRINKLED 4 = WRINKLED

☒ 1 Aleurone Color: 1 = COLORLESS (White or Yellow) 2 = BLUE

☒ 1 0 PERCENT ABORTIVE

☒ 5 1 GMS. PER 1000 SEEDS

## 11. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☒ 0 SEPTORIA ☒ 0 NET BLOTCH ☒ 0 SPOT BLOTCH ☒ 2 POWDERY MILDEW  
☒ 0 LOOSE SMUT ☒ 0 BACTERIAL BLIGHT ☒ 0 COVERED SMUT ☒ 0 FALSE LOOSE SMUT  
☒ 0 STEM RUST ☒ 0 LEAF RUST ☒ 0 SCAB ☒ 1 SCALD ?  
☒ 0 AY ☒ 0 BSMV ☒ 1 BYDV ☒ 0 OTHER (Specify)

## 12. INSECT: (0 = Not tested, 1 = Susceptible 2 = Resistant)

☒ 0 GREEN BUG ☒ 0 ENGLISH GRAIN APHID ☒ 0 CHINCH BUG ☒ 0 ARMYWORM  
☒ 0 GRASS HOPPERS ☒ 0 CEREAL LEAF BEETLE ☒ 0 OTHER (Specify)  
HESSIAN FLY RACES } ☒ 0 GP ☒ 0 A ☒ 0 B ☒ 0 C  
☒ 0 D ☒ 0 E ☒ 0 F ☒ 0 G

## 13. CHEMICAL (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☒ 0 DDT ☒ 0 OTHER (Specify)

## 14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Zephyr	Seed size	Zephyr
Leaf size	Zephyr	Coleoptile elongation	Zephyr
Leaf color	Zephyr	Seedling pigmentation	Zephyr
Leaf carriage	Zephyr		

REFERENCES: The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

- Wiebe, G. A., and D. A. Reid, 1961, Classification of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Dept. of Agriculture.
- Reid, D. A., and G. A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Dept. of Agriculture. pp. 61 - 84.
- Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

COLOR: Nickerson's or any recognized color fan may be used to determine color of the described variety.







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Exhibit D. Additional Description of <sup>SEVEN</sup> PBl-78-2R-7.

*See upper letter  
AT 5/24/83*

PBl-78-2R-7 is a two-rowed spring barley, *Hordeum vulgare*. When seeded at Culdesac, Idaho, on or about April 20, its first flowering averages June 25, or 66 days after seeding. This is two days later than Pirolina's first flowering date at Culdesac.

PBl-78-2R-7's early growth is erect. Basal leaf sheaths are glabrous. Straw length averages 89 cm in the Pacific Northwest, this being 3.8 cm shorter than Pirolina. PBl-78-2R-7's tillering is good with a lodging resistance superior to that of Pirolina's. PBl-78-2R-7's yields are superior to Pirolina's. PBl-78-2R-7 is slightly later maturing than Pirolina.

PBl-78-2R-7 is a two-rowed nutans type with a long, lax head. Its lemma awns are rough, longer than the head. Sterile lateral florets are divergent being more or less rounded. The basal rachis intermode is slightly long, tending to curve.

PBl-78-2R-7's grain is medium to large in size, plump, pale cream colored with finely semi-wrinkled to wrinkled hulls. Remnant pigmentation is present in some lemma nerves. The aleurone is colorless. Rachilla hairs are long. Lemma base is slightly creased to depression. Ventral furrows are glabrous.







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*Kenneth H. Evans*  
Commissioner  
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